

NOTES ON ACACIA, CHIEFLY FROM QUEENSLAND, IV.

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SUMMARY

Acacia resinocostata, *A. propinqua* (a species previously confused with *A. latescens* Benth.), *A. microsperma*, *A. aprepta*, *A. blakei*, *A. brassii*, *A. clivicola*, *A. helicophylla*, *A. nesophila*, *A. petraea*, *A. pubirhachis*, *A. sericiflora* and *A. drepanocarpa* ssp. *latifolia* are described as new. *A. concurrens* is a new name for *A. cunninghamii* Hook. non G. Don. It is distinguished from *A. crassa* which is described as new, *A. glaucescens* var. *leiocalyx* Domin which is raised to specific rank, and *A. longispicata* Benth. *A. dineura* is a synonym of *A. latescens*. *A. pachycarpa* F. Muell. and *A. tumida* F. Muell. are typified and the latter is distinguished from *A. difficilis* Maiden.

Some names validly published here have already been used by Pedley and Isbell (1971), Pedley (1973), and Galloway *et al* (1974). Ebersohn and Lucas (1965) referred to *A. microsperma* as "Acacia bowyakka", a name derived from the vernacular name and one without any nomenclatural significance. Names of some other species are required for a forthcoming paper by Tindale and Roux on the chemical composition of the woods. These species are described in Latin only and further discussion is deferred until the publication of a revision of all the Queensland species of *Acacia*, which is being prepared.

Species have been referred to the subseries of Bentham (1875). All belong to the series *Phyllodineae*. The term *areole* has been used in some descriptions. This has been defined by Maslin (1972). It varies in size relative to the size of the seed, in shape, colour and whether open or closed by the *pleurogram* but it seems to be constant in these attributes within species and as already pointed out by Brenan (1959), Vassal (1963), Ross (1971) and Maslin is a character of some value in distinguishing species.

Abbreviations for herbaria follow Index Herbariorum. Specimens without any herbarium indicated are at BRI.

UNINERVES

A. resinocostata Pedley, sp. nov. affinis *A. lineatae* A. Cunn. ex G. Don et *A. flexifoliae* A. Cunn. ex Benth. ab illa ramulis dissimile costatis phyllodiis minus manifeste nervatis et calycibus magis lobatis et ab hac phyllodiis minus manifeste nervatis et capitulis amplioribus differt. Typus Ward s.n. (Holo BRI 063775).

Frutex ad usque 3 m altus; ramuli glabri costis resinosis aliquantum tuberculatis. Phyllodia sessiles vel subsessiles basi lata, conferta crassa glabra lineare curvata abaxialiter apicem versus mucrone obliquo apicalo, uninervia (interdum obscure) marginibus nervatis (aliquando tuberculatis), (3-) 5.5–20 mm longa, 0.8–1.6 (–2) mm lata, glande perparvo basin versus praedita; stipulae lineares 0.5–1 mm longae. Capitula 20–35-flora in pedunculis glabris axillaribus 6–12 mm longis. Flores 5-meri; calyx 0.9–1.3 mm longus, $\pm$ glaber lobis acutis 0.3–0.5 mm longis praeditus; corolla 1.6–1.9 mm longa lobis acutis interdum incurvatis 0.6–0.9 mm longis; stamina 3–4 mm longa; ovarium glabrum. Legumen usque ad 7 cm longum, 5 mm latum, planum aliquantum glutinosum, margine nervato in stipite 3–5 mm longo dispositum. Semina longitudinaliter disposita, obovata, 4 mm longa, ca 2.5 mm lata; areola aperta magna; funiculus plicatus et incrassatus arillum basi in latere seminis faciens.

A. resinocostata occurs chiefly on sandstone from the Blackdown Tableland (west of Rockhampton) to the vicinity of Inglewood. It is found in widely separated locality and exhibits of wide range of variation.

PLURINERVES

Acacia latescens Benth. Hook. Lond. J. Bot. 1 : 380 (1842) Lectotype: May Day I., Van Dieman Gulf, May ²⁹⁵/₁₈₁₈ Cunningham (K)
A. dineura F. Muell. J. Linn. Soc. 3 : 130 (1859); *syn. nov.* Type: Upper Roper River terrae Arnhemicae, *Mueller* 31 (iso. K)

Shrub or small tree; branchlets with rather yellowish angles, glabrous. Phyllodes glabrous, curved, 9–21 cm long, 5–20 mm broad, 7–28 times as long as broad; two major longitudinal nerves and finer secondary oblique nerves forming coarse reticulum; small basal gland and two smaller glands on dorsal margin above; pulvinus 2–3 mm long. Heads of 30–40 flowers in 5–9 branched glabrous axillary racemes, sometimes growing out into leafy shoots, axis 5–15 mm long, peduncles 10–15 mm long. Flowers 5-merous; calyx narrow conical, membranous, ca 1 mm long, with short obtuse pubescent lobes; corolla glabrous 2.5 mm long, lobed to the middle; stamens ca 3 mm long; ovary glabrous. Pod flat with prominent margins and faint transverse nerves, 10–15 cm long, 12–15 mm broad; seeds longitudinal ca 8 mm long and 5 mm broad with large open areole; funicle folded into an aril. Fig. 2A.

NORTHERN TERRITORY: Melville Island, Snake Bay Settlement, Apr 1966, *Stocker & Fox* 200; Darwin, Sep 1965, *Siebel* 16; Port Darwin, *Schultz* 336 and 873, comm. *Schomburgk* (K); Port Essington, Jul 1839, *Armstrong* 399 (K); May Day I., Van Dieman Gulf, May ²⁹⁵/₁₈₁₈, *Cunningham* (K); Berry Springs, Darwin, May 1953, *Gray* 381; 13°24' S 132°27' E, Jul 1972, *Lazarides* 7671; Elizabeth River, Aug 1968, *Byrnes* 888; 16° S 136° E Glyde River area approx. 300 km ENE of Newcastle Waters, Sep 1971, *Gill*; Upper Roper River, *Mueller* 31 (K); Groote Eylandt, Apr 1948, *Specht* 243 (BRI, K); 13°45' S 136°6' E Bickerton I., Jun 1948, *Specht* 570 (BRI, K).

The isotype specimen bears immature fruits and its phyllodes are shorter than most other specimens of *A. latescens*. Confusion between *A. latescens* and *A. propinqua* sp. nov. is discussed under *A. propinqua*.

Acacia microsperma species nova affinis *A. omalophyllae* A. Cunn. ex Benth. phyllodiis longioribus angustioribusque pubescentibus, floribus pubescentibus, et seminibus angustioribus differt. Typus: Everist 2696 (BRI 029051, holo; isotypi distribuendi).

Arbor ad 10 m alta; ramuli angulati furfuracei pubescentes pilis appressis. Phyllodia coriacea linearia plerumque ad apicem aliquantum uncinata, latissima parum supra medium, pulverulenta pilis brevibus appressis oblecta; (4-) 7.5-12.5 cm longa, 1.5-4 mm lata, 20-80-plo longiora quam lata; nervo uno longitudinali plerumque leviter prominenti et aliis $\pm$ parallelis numerosis indistinctis praedita glande indistincta ex tumore parvo et orificio proximali constans basi instructa; in pulvino ca 1 mm longo contracta. Capitula 20-30 (-40)-flora in racemis axillaribus, ex axe pubescenti 0.5-2 mm longo et 3-4 ramis pubescentibus 3-6 mm longis constatis disposita vel interdum racemi fasciculis axillaribus capitulorum redacti. Flores 5-meri; calyx 0.5-0.7 mm longus lobis brevibus obtusis praeditus, omnino pubescens vel pars infera glabra; lobi corollae liberi vel ad medium juncti, 1-1.6 mm longi, calyce 2-2.5-plo longiores; ovarium pubescens. Legumen ad 6 cm longum, 2-3 mm latum, planum sed convexum in super seminibus et inter ea contractum. Semina 2.5-4 mm longa, 1.5 mm lata, longitudinaliter disposita funiculo compluriens plicato arillum facienti.

A tree to ca 10 m tall with angular scurfy branchlets pubescent with appressed hairs. Phyllodes coriaceous linear usually a little hooked at the tip, broadest a little above the middle, pruinose, covered with short appressed hairs; (4-) 7.5-12.5 cm long, 1.5-4 mm broad, 20-80 times as long as broad; one longitudinal nerve slightly more prominent, the others numerous $\pm$ parallel indistinct; an indistinct gland, consisting of a small swelling and proximal orifice, at the base; pulvinus ca 1 mm long. Heads of 20-30 (-40) flowers in axillary racemes made up of a pubescent axis 0.5-2 mm long and 3-4 pubescent branches 3-6 mm long or sometimes the racemes reduced to clusters of heads in the axils. Flowers 5-merous; calyx 0.5-0.7 mm long with short obtuse lobes, the whole pubescent or the lower part glabrous; corolla lobes free or joined to the middle, 1-1.6 mm long, 2-2.5 times as long as the calyx, pubescent; ovary pubescent. Pod up to 6 cm long, 2-3 mm wide, flat but convex over the seeds and contracted between them. Seeds 2.5-4 mm long, 1.5 mm wide, longitudinal with the funicle folded many times forming an aril. Fig. 2B, 3.

QUEENSLAND: Warrego District: 26°53' S 144°37' E ca 4.5 km SE of Quilpie, Sep 1967, *Pedley* 2451; 25°56' S 144°35' E near Adavale, Sep 1967, *Pedley* 2496; 26° S 145°02' E ca 45 km E of Adavale, Sep 1967, *Pedley* 2499. Maranoa District: Amboola ca 19 miles W of Mitchell, Oct 1948, *Everist* 3535; 90 miles from Mitchell towards St. George, May 1970, *Hall* FRI 18944; 40 miles S of Mitchell, Jul 1942, *Geary*; 50 miles S of Mitchell, Jun 1960, *Coaldrake*; 65 miles from Mitchell on Bollon road, Oct 1946, *Roe* R901; "Bonus Downs" ca 30 miles S of Mitchell, Nov 1957, *Everist* 5684; 28°35' S 149°16' E 15 miles WNW of Talwood, Oct 1970, *McDonald* 467; between Talwood and Weengallon, Aug 1958 and Oct 1958, *Carmichael*; "Pine Hills" ca 18 miles N of Gradule, Sep 1946, *Everist* 2696; 6 miles W of Weengallon, Dec 1961, *Pedley* 931.

The species which is commonly known as bowyakka often forms dense stands alone or with *Eucalyptus thozetiana* on shallow soils overlying weathered rock. It occurs from a little west of Talwood to about Adavale but its range is rather fragmented within this area. It is reputed to provide excellent timber for fence posts.

Acacia propinqua species nova affinis *A. rothii* F. M. Bail. et *A. latescens* Benth. ab illa phyllodiis minoribus et ab hac phyllodiis brevioribus ab utraque racemis elongatioribus ramosioribusque differt. Typus: *Nelson* 1100 (holo. BRI 082969; iso. K).

Arbor parva usque ad 6 m alta ramulis angulatis glabris interdum glaucis. Phyllodia glabra recta curvave obtusa 10–14 cm longa, 10–18 mm lata, 7–13-plo longiora quam lata; 2 (3 ubi phyllodia lata) nervis majoribus longitudinalibus et inter eis nervis inconspicuis obliquis secundariis reticulum laxum facientibus praedita; glans parva basi et glandes duae minores secus marginem dorsalem phyllodii; pulvinus ca 4 mm longus grossus valde corrugatus. Capitula 40–50-flora in racemis axillaribus glabris interdum glaucis 10–19-ramosis axe aliquantum grosso 8–11 cm longo et pedunculis 5–20 longis disposita. Flores 5-meri amplitudine abmodum variabiles; calyx 0.9–1.6 mm longus lobis brevibus pubescentibus; corolla glabra ad medium lobata 1.8–2.4 mm longa calyce 1.5–2-plo longa; stamina usque ad 4 mm longa; ovarium glabrum. Legumen maturum non visum, planum, 9 cm longum, 2–2.5 cm latum.

Small tree up to 6 m tall with angular glabrous branchlets, sometimes glaucous. Phyllodes glabrous, straight or curved, obtuse, 10–14 cm long, 10–18 mm broad, 7–13 times as long as broad; 2 (or a third not extending to apex when phyllodes are broad) major longitudinal nerves forming loose reticulum; small basal gland and a second smaller gland along the dorsal margin of the phyllode; pulvinus ca 4 mm long coarse, strongly corrugated. Heads 40–50 flowered, in glabrous, sometimes glaucous axillary racemes, 10–19 branched, the axis somewhat coarse 8–11 cm long and peduncles 5–20 mm long. Flowers 5-merous, rather variable in size; calyx 0.9–1.6 mm long with short pubescent lobes; corolla glabrous lobed to the middle 1.8–2.4 mm long, 1.5–2 times as long as calyx; stamens up to 4 mm long; ovary glabrous. Mature pods not seen, flat, 9 cm long, 2–2.5 cm broad. Fig. 2A, 4.

NORTHERN TERRITORY: Port Darwin, *Schultz* 301–378 comm. *Schomburgk* (K); Darwin, Apr 1914, *Allen* 187 (K); “Noonamah” 27 miles SE of Darwin, Jun 1964, *Nelson* 1100 (BRI, K); 25 miles S of Darwin, Aug 1968, *Byrnes* 892; Pine Creek–Oenpelli road, 4 miles E of Mary River, May 1968, *Byrnes* 782.

Maiden (Proc. Roy. Soc. Qd 30 : 22 (1918)) pointed out that Mueller’s figure (Icon. Aust. Sp. Acac. 8 (1887)) of *A. dineura* was *A. latescens* though he stated that he was not sure how the two species differed. Mr. N. Byrnes’s observation (in litt. 1968) that there were two closely related species of *Acacia* in the vicinity of Darwin prompted me to look at the problem. After examining the isotype of *A. dineura* and the holotype of *A. latescens* at Kew I decided that these were conspecific but that there was a second undescribed species, *A. propinqua*, found near Darwin. Byrnes’s comparison of the two species is as follows: “*A. propinqua* more compact shrub having thicker trunk with a deeper furrowed bark than *A. latescens* of same size. Phyllode width to length ratio is much greater for *A. propinqua* and likewise for the pod. *A. propinqua* has a long raceme while *A. latescens* has a short raceme or a cluster of axillary penduncles”.

JULIFLORAE

Acacia aprepta Pedley, species nova affinis *A. clivicolae* Pedley phyllodiis latoribus calyce parvo glabrescenti differt. Typus: *Pedley* 917 (holotypus: BRI 048377)

Arbor usque ad 10 m alta cortice atrata sulcata ramulis angulatis mox teretibus leviter furfuraceis; surculi juvenes saepe fuscati. Phyllodia linearia vel linearo-oblancoolata, acutiuscula, glabra vel leviter furfuracea, 3.5–8.5 cm longa, 2–8 mm lata, 9–20 (–35)–plo longiora quam lata; 1–3 nervis longitudinalibus leviter prominentibus et aliis parallelis numerosis tenuibus non-anastomosantibus praedita; glande indistincta basi instructa; in pulvino 1–1.5 mm longo contracta. Spicae 0.6–2.5 mm longae densae vel sparsiflorae (ubi vetae) in axillis superis geminatae vel singulae, pedunculis glabris 4–5 mm longis et rhachibus glabris instructae. Flores 5–meri; calyx ca 0.5 mm longus, truncatus vel brevissime lobatus, modice sericeus praecipue in costis glabrescens; corolla ca 1.5 mm longa, glabra; ovarium glabrum. Legumen 2.5–6 cm longum, 5–7 mm latum, valvis glabris membranaceis leviter convexis insuper seminibus instructum; semina obliqua 3 mm longa, 1–1.5 mm lata, per funiculum apicem versus semel plicatum et arillum parvum cupulatum facientem affixa.

Tree up to 10 m tall with dark furrowed bark, branchlets at first angular, becoming terete, slightly scurfy. Phyllodes linear or linear-oblancoolate, ± acute, glabrous or slightly scurfy, 3.5–8.5 cm long, 2–8 mm broad, 9–20 (–35) times as long as broad; 1–3 slightly prominent longitudinal nerves, the rest numerous fine parallel non-anastomosing; indistinct gland at the base; pulvinus 1–1.5 mm long. Spikes 0.6–2.5 mm long dense or sparsiflorous (when old) in pairs or single in the upper axils, with glabrous peduncles 4–5 mm long and glabrous rhachis. Flowers 5-merous, calyx ca 0.5 mm long, truncate or shortly lobed, moderately sericeous especially on ribs, glabrescent; corolla 1.5 mm long, glabrous; ovary glabrous. Pod 2.5–6 cm long, 5–7 mm broad, with membranous glabrous valves convex over the seeds. Seeds oblique 3 mm long, 1–1.5 mm broad attached by funicle once folded towards the apex forming a small cupular aril. Fig. 2B.

QUEENSLAND: Maranoa District: Yuleba, Dec 1930, *Belson*; 8 miles E of Weengallon, Jan 1963, *Pedley* 1191; 10 miles E of Weengallon, Nov 1961, *Pedley* 917; [28°20' S 148°55' E] Talwood, Jun 1962, *Ebersohn* E62. Darling Downs District: Tara–Chinchilla road, Feb 1971, *Cameron*; Chinchilla, Aug 1933, *Richards*; 18 miles S of The Gums, May 1957, *Everist & Johnson* 113; near Jackson, Nov 1958, *Johnson* 684; 12 miles W of Glenmorgan, Jan 1963, *Pedley* 1202; Miles, *Shirley*, Dec 1890, *Bailey*, Jun 1946, *White Hort.* Aust. 1154; [26°41' S 150°12' E] 2 miles S of Miles, Jan 1970, *Cameron*, Dec 1958, *Pedley* 356, in 1970, *Hanger*; Butlers road SW from Miles, Sep 1962, *Hockings*.

Like *Acacia catenulata* which sometimes occurs in close proximity *A. aprepta* forms dense stands on shallow soil overlying deeply-weathered rock. It is restricted to western parts of the Darling Downs and adjacent parts of the Maranoa districts. Its habit of growth is not unlike that of *A. aneura* (mulga) and it is sometimes referred to as Miles mulga.

A specimen (*White Hort.* Aust. 1154) was sent by White to the New South Wales National Herbarium where it was recognized as being an undescribed species. Sterile twigs of *A. burrowii* included with the specimen

possibly influenced the determination. The species was thought to be closest to *A. stowardii* but its nearest relative is *A. clivicola* and both are closely related to *A. kempeana*.

Acacia blakei Pedley, sp. nov. affinis *A. juliferae* Benth. phyllodiis juventutis glabris, floribus minoribus, calycibus glabrioribus et leguminibus applanatis differt. Typus: *Pedley* 323 (holo. BRI 032114).

Arbor usque ad 12 m alta; cortex fuscus fissuratus; ramuli leviter angulares mox teretes, glabri vel leviter furfuracei vel interdum in plantis juvenibus pilis brevibus paucis vestiti. Phyllodia $\pm$ recta glabra vel interdum in plantis juvenibus indumento sparso, 8–13 cm longa, 1–18 (–22) mm lata, 6–10-plo longiora quam lata, in plantis juvenibus breviores et latiores (2–3 cm lata et 2–3-plo longiora quam lata); nervis tribus longitudinalibus plerumque prominentibus ceteris numerosis crebris neque anastomosantibus neque basi concurrentibus instructis; glans basalis; pulvinus 3–5 mm longus. Spicae densiflorae 3–4 cm longae in pedunculis 3–4 mm longis geminatis in axe axillari 7–13 mm longo interdum phyllodia producenti. Flores 5-meri; calyx membranaceus truncatus vel sinuatus, 0.6–0.8 mm longus glaber praeter apice pilos paucos infuscos; corolla glabra $\pm$ crassa ad medium lobata, 1.2–1.6 mm longa calyce bis longior; stamina ca 3 mm longa; ovarium glabrum. Legumen planum leviter convexum insuper seminibus, usque ad 10 cm longum, 2–3 mm latum. Semina longitudinaliter disposita, 3.5–4 mm longa, 1.6–1.8 mm lata; areola aperta longa angustaque; funiculus in arillem basilarem 3–4-plo plicatus.

A. blakei is one of a group of closely related species that includes *A. julifera*. It forms pure stands a little south-west of Warwick and near Mt. Edwards, and has not been collected elsewhere.

Acacia brassii Pedley, species nova; ab *A. crassicaepae* A. Cunn. ex Benth. leguminibus angustioribus seminibus longitudinalibus ferentibus, ab *A. cunninghamii* Hook. nervis phyllodiorum non anastomosantibus recedit. Typus: *Pedley* 2741 (Holotypus BRI 123929).

Arbor usque ad 8 m alta cortice fusca dura sulcata. Ramuli pulvini, phyllodiaque plantarum juvenum vestimento pilorum parce confertorum alborum ca 0.25 mm longorum et sparsorum rufescentium 0.05 mm longorum praediti. Ramuli costati glabri vel interdum pilis paucis dispersis longis vestiti. Phyllodia glabra vel furfuracea juventute, anguste ovata, falcata, 13–19 cm longa, (1–) 2–3 cm lata, 5–8 (–13)-plo longiora quam lata; 3 nervi longitudinales conspicui, ceteri confertissimi haud conspicui in statu vivo, vix anastomosantes; glande prominenti in margine dorsali basi instructa; pulvinus 6–10 mm longus. Spicae densae ca 5 cm longae, singulae vel geminae in axillis superis, in pedunculis 6 mm longis portatae; rhachis pedunculusque dense pubescens. Flores 5-meri; calyx 0.8–1.1 mm longus, pilis parce confertis ca 0.15 mm longis vestitus, fere basin versus in lobos oblongos, apice parum latos factos, ca 0.25 mm latos divisus; corollae lobi ovati 1.3–1.5 mm longi ad medium usque juncti, pilis longis paucis dorsalis praediti; stamina 2.5–3.0 mm longa; ovarium pilis erectis ca 0.25 mm longis obtectum. Legumen usque ad 5.5 cm longum, 2.5 mm latum, lineare, acutum, $\pm$ rectum, interdum longistrorsum obscure striatum, glabrum inter semina contractum, super ea elevatum. Semina longitudinaliter disposita, depressicylindrica, 3–3.5 mm longa, ca 1.5 mm lata, 1–1.4 mm alta, funiculo in arillum bis plicato.

Tree to 8 m tall with hard dark furrowed bark. Branchlets, pulvinuses and phyllodes of young plants with a covering of somewhat crowded white hairs ca 0.25 mm long and of sparse brownish hairs 0.05 mm long. Ribs of the branchlets glabrous or sometimes covered with a few scattered long

hairs. Phyllodes glabrous or the young ones scurfy, narrowly ovate, falcate, 13–19 cm long, (1–) 2–3 cm broad, 5–8 (–13) times as long as broad, with a prominent gland on the dorsal margin at the base; pulvinus 6–10 mm long; 3 longitudinal nerves conspicuous, the remainder very crowded not conspicuous on living phyllode, hardly anastomosing. Spikes dense ca 5 cm long, single or in pairs in the upper axils on peduncles 6 mm long, the rhachis and peduncle densely pubescent. Flowers 5-merous; calyx 0.8–1.1 mm long, with somewhat dense hairs, divided almost to the base into oblong lobes rather broad at the tips; corolla lobes ovate 1.3–1.5 mm long joined to the middle with a few long hairs on the back; stamens 2.5–3 mm long; ovary covered with erect hairs ca 0.25 mm long. Pod up to 5.5 cm long, 2.5 mm broad, linear, acute, $\pm$ straight sometimes long pointed obscurely striate glabrous contracted between the seeds and raised over them. Seeds arranged longitudinally, depressed cylindrical, 3–3.5 mm long, ca 1.5 mm broad, 1–1.4 mm high, the funicle twice folded to form an aril. Fig. 2A.

QUEENSLAND: Cook District: Iron Range, Jun 1948, *Brass* 19095; Browns Creek, Pascoe River, Jul 1948, *Brass* 19563; 11°33 S 142°26 E, Cockatoo Creek, 60 miles S of Cape York, Jun 1968, *Pedley* 2738; 13°06 S 142°57 E, Wenlock River 60 miles NNW of Coen, Jul 1968, *Pedley* 2741; 14°10 S 143°42 E, 35 miles ESE of Coen, Nov. 1965, *Pedley* 1892.

This species occurs on deep sandy bleached grey earths, usually forming distinct communities with *Melaleuca viridiflora* north and north-east of Coen, but is also found on creek banks farther north. It and *A. rothii* F. M. Bail. are the commonest species of *Acacia* in Cape York Peninsula north of about 15° S.

Acacia clivicola Pedley, species nova affinis *A. kempeanae* F. Muell. phyllodiis leguminibusque angustioribus differt. Holotypus: Johnson 1508 (holo. BRI 144504, iso. NT ceteri distribuendi).

Frutex usque ad 2.5 m altus ramis e trunco brevi oblique ascendentibus; ramuli tenues angulati aliquantum resinosi furfuraceique; surculi juvenes saepe fuscati. Phyllodia linearia interdum teretia, latissima parum supra medium glabra, coriacea, (2–) 3–6 (–7) cm longa, (0.7–) 1–3 (–4) mm lata, 9–40 (–60)–plo longiora quam lata, nervis parallelis $\pm$ parilibus numerosis tenuibus non-anastomosantibus praedita; glande prominenti orificio parvo basi vel e basi 2–5 mm instructa, ad glandulam margine phyllodii impresso et phyllodio flexo. Spicae densiflorae 3–7 (–12) mm longae in axillis superis geminatae, pedunculis leviter furfuraceis 3–8 mm longis; bracteolati peltati laminis furfuraceis ca 0.4 mm latis praediti. Flores 5–meri; calyx (0.6–) 0.7–0.9 mm longus, dense pubescens lobis 0.15 mm longis; lobi corollae glabri, ad medium juncti, 1.5–1.8 mm longi, calyce 2.2–7–plo longiores; stamina 2.5–3 mm longa; ovarium leviter furfuraceum aliquando laeve. Legumen planum insuper seminis alternatim in quoque facie convexum, glabrum glutinosum, usque ad 5 cm longum, 4–7 (–10) mm latum, transverse nervosum. Semina oblique transversa, ca 3 mm longum, 2–2.5 mm latum, funiculus sensim incrassatus ca 4–plicatus aliquantum amplum cupulatum arillum faciens.

Shrub up to 2.5 m high with branches obliquely ascending from the short trunk; branchlets slender angular somewhat resinous and scurfy; young shoots often brownish. Phyllodes linear sometimes terete, the broadest part a little above the middle, glabrous, coriaceous, (2–) 3–6 (–7) cm long (0.7–) 1–3

(-4) mm broad, 9-40 (-60) times as long as broad, nerves parallel $\pm$ equal numerous slender and non-anastomosing; a prominent gland with a small orifice at the base or 2-5 mm from the base, with the margin of the phyllode and the phyllode bent at the gland. Spikes dense 3-7 (-12) mm long in pairs in the upper axils with slightly scurfy peduncles 3-8 mm long; with peltate bracteoles with a scurfy lamina 0.4 mm wide. Flowers 5-merous; calyx (0.6-) 0.7-0.9 mm long, densely pubescent with lobes 0.15 mm long; corolla lobes glabrous joined to the middle, 1.5-1.8 mm long, 2-2.7 times as long as the calyx; stamens 2.5-3 mm long; ovary slightly scurfy sometimes smooth. Pod flat convex over the seeds alternately on each side, glabrous or glutinous, to 5 cm long, 4-7 (-10) mm wide, transversely nerved. Seeds obliquely transverse, ca 3 mm long, 2-2.5 mm broad, funicle gradually thickened folded about 4 times making a somewhat broad cupular aril beneath the seed. Fig. 2B, 5.

QUEENSLAND: Maranoa District: "Boatman", Mar 1947, *Everist* 2768 & 2770; Apr 1948, *Everist* 3429. Warrego District: 27.37 S 144.34 E, 50 miles ENE of Thargomindah, Sep 1967, *Pedley* 2458; 26 S 145.03 E, 28 miles E of Adavale, Sep 1967, *Pedley* 2498; "Tinderry", Quilpie, Dec 1961, *Watts*; 26 S 145.08 E, 33 miles E of Adavale, Sep 1967, *Pedley* 2501; 27.33 S 143.13 E, 40 miles WNW of Thargomindah, Sep 1967, *Pedley* 2475; Charleville-Adavale road, 82 miles from Adavale, Jun 1967, *Gittins* 1222 (NSW, BRI) about 12 miles S of Cheepie, Nov 1957, *Everist* 5907; "Dynevor Downs", Apr 1941, *White* 12749; "Whynot" between Quilpie and Thargomindah, Nov 1957, *Everist* 5901; Paroo-Bulloo Range, Aug 1923, *MacGillivray* 986; [26 S 145 E] 87 miles W of Charleville on Adavale road, in 1970, *Walker* SP137. Gregory South District: [20.25 S 142.35 E] 5 miles E of Windorah, Nov 1970, *Caffery**; Nockatunga, *Allison* 1085; 40 miles E of Windorah, Jun 1937, *Everist* 1537*; nr Pinkilla about 40 miles from Quilpie on Windorah road, Aug 1963, *Everist* 7476; Mar 1960, *Johnson* 1508; "Mt. Margaret" near Eromanga, Jul 1936, *Blake* 11900; Kyabra Creek, ca 25 miles SSE of Windorah, Aug 1963, *Everist* 7452. Mitchell District [23.32 S 143 E] "Vergemont", 8 Sep 1969, *Law*; "Warbreccan", May 1962, *Creighton*; Lorne Peak ca 50 miles SSW of Blackall, Feb 1940, *Everist* 1993; Gregory North District: "Currawilla" ca 100 miles W of Windorah, Jun 1949, *Everist* 3909; "Roxborough Downs" ca 80 miles SE of Urandangie, Nov 1948, *Everist* 3603*; 24.37 S 139.49 E 55 miles from "Monkira" to "Cluny", Sep 1969, *Gittins* 1953*.

Acacia clivicola is common on low hills on shallow soil overlying weathered rock ("laterite") in the Warrego and adjacent parts of the Gregory South Districts. It has been confused with *A. aneura* F. Muell. ex Benth., mulga, especially by landholders who sometimes refer to it as bastard mulga, but its nearest relative is *A. kempeana* F. Muell. The two differ in the sizes of the phyllodes, pods and flowers. A series of intergrading populations from Windorah north-westward to the Northern Territory west of Urandangie connect *A. clivicola* and *A. kempeana*.

Specimens intermediate between *A. kempeana* and *A. clivicola* (indicated by an asterisk in the specimens examined) make up only a small proportion of those examined. Though the intermediate variants have a wide geographic range they are either uncommon or perhaps poorly collected.

Acacia cunninghamii Hook.

There has been considerable confusion about the identity of *A. cunninghamii* and *A. longispicata* Benth. In several large herbaria it seems that all specimens with spicate inflorescences and large phyllodes with anastomosing nerves, the major ones running into each other or into the margin at the base, are currently referred to *A. cunninghamii*. In recent years the most striking variants have been treated as distinct species, *A. cretata* Pedley and *A. tropica* (Maid. & Blakely) Tindale, but there remains a group of closely interrelated species. These will be discussed in greater detail elsewhere, but the following key is a guide to their identification.

Pulvinus long, usually more than 5 mm; calyx with at least a few hyaline hairs.

Branchlets and usually the phyllodes pubescent with appressed hairs; phyllodes (3-) 4-7 (-8) times as long as broad; spikes dense, (3-) 5-10 cm long on pubescent peduncles.

A. longispicata

Branchlets and phyllodes not pubescent or rarely with spreading hairs on branchlets; phyllodes often more elongate.

Branchlets scurfy; phyllodes 3-8 (-12) times as long as broad; spikes 5-10 cm long; flowers pale yellow.

A. concurrens

Branchlets glabrous; phyllodes (7-) 9-18 (-22) times as long as broad; spikes 4-7 cm long; flowers deeper yellow.

A. crassa

Pulvinus short, 3-5 mm long; calyx glabrous

A. leiocalyx

Acacia longispicata Benth. in Mitch. Trop. Aust. 298 (1848) Type: Subtropical New Holland, 5 Sep 1846, *Mitchell* "293" (holo. K)

A. cunninghamii var. *longispicata* Benth. Fl. Aust. 2: 407 (1864) based on *A. longispicata* Benth.

The species is found close to the Dividing Range, usually on sandstone, from about north of Roma to the vicinity of Pentland. The density of the indumentum varies but hairs seem to be always present, at least on the branchlets.

Acacia concurrens Pedley, nom. nov. based on *A. cunninghamii* Hook. Ic. Plant. t, 167 (1837) non G. Don; *nom illeg.* Type: Brisbane River, *Cunningham* (holo. K)

Though *A. concurrens* was well figured by Hooker it has been a long standing source of confusion. It is more or less confined to the Moreton district of Queensland and adjacent coastal districts of New South Wales where it is sympatric with *A. leiocalyx* which is distinguished by its extremely angular reddish stems, paler flowers, and different time of flowering.

Acacia crassa Pedley, species nova. affinis *A. concurrentis* Pedley phyllodibus falcatoribus aliquantum longioribus et elongatioribus, spicis brevioribus densisque, leguminibus planis et seminibus majoribus differt. Typus: *Pedley* 810 (holo. BRI 031371)

Arbor ad 8 m alta; ramuli grossi angulati glabri lenticellis saepe muniti. Phyllodia coriacea glabra (vel ubi juvenes furfuracea) vel aliquot pilis vestita, falcata (12-) 14-24 (-29) cm longa, (8-) 10-24 (-30) mm lata, (7-) 9-18 (-22)-plo longiora quam lata; nervis tribus longitudinalibus

prominentioribus basi phyllodii saepe concurrentibus instructa, ceteris secundariis numerosis aliquantum late dispositis; glans basalis; pulvinus (5-) 7-10 mm longus, spicae densiflorae (3-) 4.5-7 cm longae in pedunculis glabris 5-8 mm longis geminatis basi surculi axillaris brevis interdum phyllodia producentis portatae. Flores 5-meri; calyx (0.6-) 0.75-1.2 mm longus interdum crassus, glabrus vel basi aliquot pilis vestitus, lobis 0.1-0.2 mm longis praeditus; corolla (1.7-) 1.9-2.4 mm longa calyce (1.8-) 2.3-plo longior, lobis longis glabris reflexis praedita; stamina 3-4 mm longa; ovarium dense pubescens. Legumen glabrum planum insuper seminibus convexum et inter ea perleviter contractum, ca 4.5 cm longum, 3.5 mm latum. Semina longitudinaliter disposita, 4.5-6 mm longa, 2-2.5 mm lata; areola aperta aliquantum elongata; funiculus 5-plo plicatus basilem arillum longitudine dimidium seminis aequantem faciens.

A. crassa is common in the Darling Downs district where it often forms dense stands in disturbed situations, especially on shallow soils overlying deeply weathered sandstone. It extends to the Leichhardt district where intermediates between it and *A. leiocalyx* may occur.

Acacia leiocalyx Pedley, comb. et stat. nov. based on *A. glaucescens* Willd. var. *leiocalyx* Domin, Bibl. Bot. 89:269 (1926). Type: prope Brisbane River, *Dietrich* 568. (holo. PR 527897, iso HBG).

A. leiocalyx ranges throughout eastern Queensland south of about Mackay. It exhibits a wide range of variation and several subspecies will probably be recognised. In parts of its geographic range it is found with *A. concurrens*, *A. crassa* and *A. longispicata* and though some intermediates probably occur it is on the whole morphologically and ecologically distinct.

Acacia drepanocarpa F. Muell. ssp. *latifolia* Pedley, subspecies nova, ab *A. drepanocarpa* spp. *drepanocarpa* non nisi phyllodiis distinguenda.

Phyllodia 4.5-10 cm longa, 4-11 mm lata, 5-20-plo longiora quam lata, 3 (-5) nervis longitudinalibus elevatis et inter eis nervis tenuioribus anastomosantibus (praecipue ubi latis) praedita, glandula usque ad 2 mm e basi ornata. Holotypus: *Chippendale* NT 7307 (BRI 127066).

Distinguished from ssp. *drepanocarpa* only by its phyllodes. Phyllodes 4.5-10 cm long, 4-11 mm broad, 5-20 times as long as broad, with 3 (-5) raised longitudinal nerves and between them narrower nerves anastomosing (especially when broad); gland up to 2 mm from base. Fig. 1, 2A, 6.

NORTHERN TERRITORY: 30 miles E of "Montejinni", Jun 1952, *Perry & Lazarides* 2884 & 2885 (K, MEL); 42 miles S of "Limbunya", Jul 1949, *Perry & Lazarides* 2348 (BRI, K, MEL); 20 miles W of "Inverway", Jun 1952, *Perry & Lazarides* 2930, (BRI, K, MEL), 4 miles N of Hookers Creek, Jul 1956, *Chippendale* NT 2209; 3 miles NW of Hookers Creek Mission, Jun 1952, *Perry & Lazarides* 2914 (K, MEL); 34 miles SW of Hookers Creek, Jul 1956, *Chippendale* NT 2254; 36 miles W of "Soudan", Jun 1960, *Chippendale* NT 7307, QUEENSLAND: Burke District: "Pilpah Hills" Barkly Downs, Oct 1962, *Pedley* 1078 (BRI, K).

In herbaria specimens of *A. drepanocarpa* ssp. *latifolia* have been identified either as "inland form of *A. drepanocarpa*" or as *A. ptychophylla* F. Muell. Isosyntypes (Sturts Creek, *Mueller* 3 & 80, K) of *A. ptychophylla* have phyllodes 2-2.6 cm long, 4-5 mm broad, 5 times as long as broad with 7-9 equally prominent widely spaced longitudinal nerves with three glands

unusually arranged on the margin, one basal, the second about 1 mm from the base, and the third 3–5 mm from the second. The range of *A. drepanocarpa* is shown in figure 2A, and in figure 1 the logarithm of the length : breadth ratio is plotted against breadth. The highly significant linear relationship between the parameters has been found to hold for many other species of *Acacia* with phyllodes.

Acacia helicophylla Pedley, species nova insignis a speciebus mihi notis bene distincta; *A. hemsleyi* Maiden propter eius stipulas persistentes, phyllodia apiculata et pedunculos longos primo adspectu maxime simile, sed characteribus multis praecipue phyllodiis tortis et, aetate provecta, latoribus, floribus leviter striatis, calycibus longioribus et leguminibus brevioribus valde differt. Typus: *Byrnes* NB620 (BRI 144507).

Frutex ad usque 4 m altus; cortex fuscus partibus angustis decorticans; ramuli resinosissimi primo leviter costati mox teretes; stipulae persistentes scariosae, triangulares, acutae, 1.5–1.7 mm longae, 0.5–0.7 mm latae basi. Phyllodia in plantis juvenibus recta vel leviter curvata, torta 4–6-plo vel raro minus, linearia, acuta, apiculata, punctulata, glabra vel primo pilis paucis longis marginalis praedita, 8–12 cm longa, 4–5 mm lata, 20–30-plo longiora quam lata; nervo medio et margine prominenti, 2–4 nervis longitudinalibus aliquantum minus conspicuis parallelis ad nervum medium, et nervis ceteris tenuibus aliquantum late dispositis anastomosantibus facientibus cum nervis conspicuioribus reticulum ornata: phyllodia in plantis maturis oblonga angustata basin versus, obtusa vel retusa, mucronulata, 7–9 cm longa, 2–3 cm lata, semel vel bis torta vel tantum grosse undulata; nervo medio et margine prominenti, 6 (–8) nervis minus conspicuis parallelis ad eos, et nervis tenuibus obliquis facientibus rete grossum ornata; glans conspicua ca 1 mm e basi; pulvinus ca 1 mm longus. Spicae densae 2–3 cm longae, singulae vel geminae in axillis superis, portatae in pedunculis glabris resinosi 10–15 mm longis in medio 1 vel 2 bracteis triangularibus acutis scariosis 1.5 mm longis et ca 0.8 mm latis praeditis; rhachis glabra; bracteolae alabastra aequantes, glabrae, lineares, acutae. Flores 5-meri; calyx 0.8–0.9 mm longus, glaber, leviter striatus lobis oblongis, breviter acuminatis, 0.4–0.5 mm longis praeditis; corollae lobi ovati acuti (1.7–) 1.8–2.0 mm longi leviter striati ad medium usque juncti; stamina 3.5 mm longa; ovarium (apice glabro excepta) tatereum, aliquot pilis paulo crassis, curvatis translucetibus ornatum. Legumen usque ad 6 cm longum plerumque minus, ca 1 cm latum, curvum, apiculatum ad basim angustatum $\pm$ septatum inter semina, tenuiter oblique nervatum, pilis implexis parce confertis pluribus quam 1 mm longis vestitis, aliquando subglabrum. Semina longitudinaliter disposita, depressiglobosa, 5.5–6.5 mm longa, 4–5 mm lata, 2.5–3 mm crassa, funiculo incrassato et in arillum $\pm$ cupulatum plicato.

A shrub up to 4 m high; bark dark peeling off in narrow strips; branchlets extremely resinous, at first slightly ribbed soon terete; stipules persistent, scariosae, triangular, acute, 1.5–1.7 mm long, 0.5–0.7 mm broad at the base. Phyllodes on juvenile plants straight or slightly curved, twisted 4–6 times or rarely less, linear, acute, apiculate, punctulate, glabrous or at first with scattered long marginal hairs; mid-nerve and marginal nerve prominent, 2–4 longitudinal nerves somewhat less prominent parallel to the mid-nerve, and other fine somewhat widely spaced anastomosing nerves forming reticulum with more conspicuous nerves; phyllodes on mature plants oblong, narrowed towards the base, obtuse or retuse, mucronulate, 7–9 cm long, 2–3 cm wide, twisted once or twice or sometimes coarsely undulate; mid-and

marginal nerves prominent, 6 (-8) less conspicuous nerves parallel to them, and fine oblique nerves forming coarse net; a conspicuous gland ca 1 mm from the base; pulvinus ca 1 mm long. Spikes dense, 2-3 cm long, single or in pairs in the upper axils, borne on glabrous resinous peduncles 10-15 mm long with 1 or 2 triangular acute scarious bracts 1.5 mm and ca 0.8 mm broad in the middle; rhachis glabrous; bracteoles equalling the buds, glabrous, linear, acute. Flowers 5-merous; calyx 0.8-0.9 mm long glabrous slightly striate with oblong lobes, shortly acuminate, 0.4-0.5 mm long; corolla lobes ovate acute (1.7-) 1.8-2.0 mm long slightly striate united to the middle; stamens 3.5 mm long; ovary (except for the glabrous top) tartarous, sometimes with a few thick curved hairs. Pod up to 6 cm long, sometimes less, ca 1 cm wide, curved apiculate, narrowed to the base $\pm$ septate between the seeds finely obliquely nerved, clothed with curled somewhat crowded hairs more than 1 mm long, rarely subglabrous. Seeds longitudinal depressed globular, 5.5-6.5 mm long, 4-5 mm broad, 2.5-3 mm thick, funicle thickened and folded into $\pm$ cupular aril. Fig. 2A, 7.

NORTHERN TERRITORY: Edith Falls ca 20 miles N of Katherine, Dec 1966, *Adams* 1655, Apr 1967, *Adams* 1763, Jul 1972, *Maconochie* 1608; among rocks near upper falls of Edith River, Sep 1965, *Siebel and Hansen*; Katherine Gorge National Park, Apr 1968, *Byrnes* NB620.

This remarkable species is known only from sandstone areas in the upper parts of the Katherine and Edith Rivers. It is not closely related to any other species of *Acacia* that I know, though it has some general resemblance to *A. hemsleyi*. Its spirally twisted phyllodes, those on young plants narrow with five or six turns, those on mature plants with one or two or sometimes with only coarsely undulate margins seem to be unique in the genus. The striate flowers are similar to those of some tropical members of the *Brunioideae* which are otherwise very different. The pods and seeds are also exceptional. The curved apiculate pod, gradually narrowed to the base, somewhat septate between the seeds, something like that of *Macrotyloma uniflorum*, and the small, closed, pale areole of the seed are also remarkable.

Acacia nesophila Pedley, species nova affinis *A. holosericeae* A. Cunn. ex G. Don et *A. pellitae* O. Schwarz, sed ab utraque floribus glabris et nervis longitudinalibus phyllodiorum in marginem inferum basi non currentibus differt. Typus: *Pedley* 2319 (BRI 071935).

Frutex usque ad 3 m altus; ramuli aliquantum grossi, angulati, furfuracei vel vestimento pilorum parce confertorum flexorum ca 0.2 mm longorum. Phyllodia crassa, furfuracea, velutina, tomentosa, subglabra vel raro glabra, $\pm$ recta, ovata, acuta vel obtusa vel subretusa, glandem parvam circularem in margine dorsali apice pulvini 4-5 mm longi ferentia; 3-5 nervi longitudinales conspicui in marginem inferum phyllodii non currentes, nervi secundarii valde reticulati areolas $\pm$ oblongas facientes. Spicae densae usque ad 4 cm longae geminae in axillis superis, rhachidi tomentosa et pedunculo tomentosus ca 5 mm longo praeditae; bracteolae caducae, capitatae, sparsim pubescentes, 0.5 mm longae. Flores 5-meri cylindrici; calyx 1 mm longus lobis glabris 0.3 mm longis praeter

apicem aliquantum pubescentem; corollae lobi 1.4 mm longi, ovati, margine minute papilloso, primo ad medium usque juncti, ad finem secedentes; stamina ca 2 mm longa; ovarium dense pubescens, stylus crassus. Legumen usque ad 5 cm longum, 3-4 mm latum, lineare, curvum, inter semina leviter contractum, super ea elevatum; semina longitudinaliter disposita, oblonga, nigra, 3.5-4 mm longa, 2-3.5 mm lata, funiculo incrassato et in arillum flavum plicato.

Shrub up to 3 m tall; branchlets somewhat coarse, angular, scurfy or with a covering of somewhat crowded flexuose hairs ca 0.2 mm long. Phyllodes thick, scurfy, velvety, tomentose, subglabrous or rarely glabrous $\pm$ straight, ovate, acute or obtuse or subretuse bearing a small circular gland on the dorsal margin at the top of the 4-5 mm long pulvinus; 3-5 conspicuous longitudinal nerves not running into the lower margin of the phyllode, secondary nerves strongly reticulate forming $\pm$ oblong areoles. Dense spikes up to 4 cm long in pairs in the upper axils, rhaches and peduncles tomentose, the latter 5 mm long. Flowers cylindrical, 5-merous; calyx 1 mm long with glabrous lobes 0.3 mm long slightly pubescent except for the apex; lobes of the corolla 1.4 mm long ovate minutely papillose on the margins, at first united to the middle ultimately separating; stamens ca 2 mm long; ovary densely pubescent, the style thick. Pod up to 5 cm long, 3-4 mm broad, linear, curved, slightly contracted between the seeds, raised over them; seeds longitudinal, oblong, black, 3.5-4 mm long, 2-3.5 mm broad, funicle thickened and folded into a yellow aril. Fig. 2A.

QUEENSLAND: Cook District: Walsh River, May 1961, *Martin* 2057 QFD 62/177; near Walsh Bluff [17.10 S 145.20 E approx.], Jun 1928, *Tardent* 110; 6 miles from Petford on Herberton road, Apr 1962, *McKee* 9422; 17.26 S 145.03 E, 12 miles NE of Irvinebank, Nov 1965, *Pedley* 1923; near Irvinebank, ca 10 miles W of Herberton, Apr 1967, *Pedley* 2319 & 2321. North Kennedy District: Palm I., May 1926, *Summerville*; Acheron I., 24 miles NNW of Townsville, Jul 1966, *Birch* 1/168; Rattlesnake I., 20 miles NW of Townsville, Aug 1966, *Birch* 1/227; Herald I., 20 miles NW of Townsville, Aug 1966, *Birch* 1/204.

This plant is usually a little-branched shrub in eucalypt woodland on shall rocky soils.

Acacia pachycarpa F. Muell. ex Benth. Fl. Aust. 2:408 (1864); F. Muell. J. Linn. Soc. 3:139 (1859), *pro syn.*; F. Muell. Icon. Aust. Sp. Acacia, dec. 12 (1888). Lectotype: Sturts Creek, *Mueller* 89 [specimens, in fruit, with long phyllodes, not flowering specimens with shorter phyllodes]. (MEL; K, iso.).

Specimens of *Mueller* 89 at both MEL and K consist of two distinct elements: one, in flower, has rather short phyllodes with 1 or 3 longitudinal nerves more conspicuous than the rest; the other is in fruit and has much longer phyllodes with many longitudinal nerves, none of them particularly prominent. The differences in the two elements are apparent in *Mueller*'s figure in the Iconography. Both *Mueller*'s and *Bentham*'s descriptions however apply to both elements and neither is discordant with the original description.

The flowering element is an excellent match for isosyntype material (K) of *A. ancistrocarpa* Maid. & Blakely. In the protologue Maiden and Blakely noted that *A. ancistrocarpa* differed from *A. pachycarpa* in phyllodia and pod. Perhaps this can be interpreted as implying that they accepted the fruiting element as type of *A. pachycarpa*, but it is more likely they were not aware that the type was a mixture. The fruiting element of *A. pachycarpa* is therefore chosen as lectotype so that there is no doubt about the application of the name *A. ancistrocarpa* to the species widespread in northern Australia.

It is likely that *A. crassifrugis* Tindale & Maconochie will prove to be conspecific with *A. pachycarpa*.

Acacia petraea Pedley, species nova affinis *A. lasiocalycis* C. Andrews ramulis non glaucis pedunculis ad surculum brevem axillareum rudimentalem portis spicis longioribus floribus minoribus et ovaria omine pubescente differt. Typus: *Everist* 7321 (holo. BRI 141933; iso. distribuendi).

Arbor usque ad 10 m alta; ramuli angulati initio pilis densis appressis ornati mox glabri. Phyllodia coriacea lineares stricta curvatave acuta glabra 13.5–26 cm longa, 2.5–6 mm lata, 22–95 (–110)–plo longiora quam lata, nervo uno longitudinale leviter prominenti et aliis parallelis numerosis tenuibus non-anastomantibus praedita; glans basi parva; pulvinus 2 mm longus crassus. Spicae densiflorae 1–2.5 cm longae binatim ad surculum brevem axillarem rudimentalem portatae, axe 2–4 cm longo et pedunculis (2–) 10–15 mm longis; bracteolati peltati stipite gracili et lamina ca 0.5 mm diametro. Flores 5-meri; calyx membranaceus 0.7–1.2 mm longus breve lobatus pubescens pilis interdum brunneis; lobi corollae ad medium juncti glabri 1.9–2.1 mm longi, calyce 1.8–2.5–plo longiores; stamina 3.5–4 mm longa; ovarium appressis pilis pubescens. Legumen planum sed insuper seminibus convexum et inter ea leviter contractum, 8.5 cm longum, 3.5 mm latum. Semina longitudinaliter disposita 4.5 mm longa 2.5 mm lata; areola parva pallidus; funiculus planatus apicem versus bis plicatus.

Tree to 10 m tall; branchlets angular at first with dense appressed hairs soon glabrous. Phyllodes coriaceous linear straight or curved, acute glabrous 13.5–26 cm long, 2.5–6 mm broad, 22–95 (–110) times as long as broad, with one longitudinal nerve slightly prominent and the others fine numerous parallel, not anastomosing. Spikes dense 1–2.5 cm long in pairs on short rudimentary axillary shoot, the axis 2–4 cm long and peduncles (2–) 10–15 mm long; bracteoles peltate with a slender stipe and the lamina ca 0.5 mm in diameter. Flowers 5-merous; calyx membranous 0.7–1.2 mm long shortly lobed pubescent with sometimes brown hairs; corolla lobes united to the middle glabrous 1.9–2.1 mm long, 1.8–2.5 times as long as calyx; stamens 3.5–4 mm long; ovary pubescent with appressed hairs. Pod flat but convex over the seeds and slightly contracted between them, 8.5 cm long, 3.5 mm broad. Seeds longitudinal 4.5 mm long, 2.5 mm broad with a very short pale areole; funicle flat twice folded towards the apex. Fig. 2B, 8.

QUEENSLAND: Gregory South District: Between Quilpie and Eromanga, May 1928, *White*; "Whynot" Grey Range, *Rutledge*; Warrego District: 24°44' S 144°37' E, north western extremity of Gowan Range, SE of Emmet, Jul 1963, *Everist* 7321; [27°09' S 143°46' E] "Boalli" ca 55 miles

SW of Quilpie, Aug 1963, *Everist* 7483; 26°49' S 144°49' E, 35 miles E of Quilpie, Nov 1968, *Pedley* 2823; "Tarko" 35 miles SW of Eulo, Aug 1967, *Davidson*, and *Law* 72 & 79B; 30 miles W of Cunnamulla, Nov 1954, *Smith* 6005.

The species occurs on lateritic scarps and is confined to the Grey Range and its outliers. Other species also closely associated with laterite in south-western Queensland are *A. catenulata*, *A. clivicola*, *A. ensifolia* and *A. microsperma*. It has previously been referred to *A. doratoxylon* A. Cunn. which however has usually shorter phyllodes, the rudimentary axis bearing the peduncles better developed, somewhat smaller flowers, and the areole of the seed elongate, narrow and not paler than the rest of the seed. The short pale areole possibly indicates a relationship to *A. shirleyi* which occupies similar habitats in usually less arid parts of northern Australia.

Acacia pubirhachis Pedley, species nova affinis *A. hammondii* Maiden sed phyllodiis non punctulatis, magnioribus, ramulis et rhachidibus spicarum pubescentibus et calyce lobato minus profunde differt. Typus: *Pedley* 1909 (Holotypus: BRI 069040 et BRI 069041).

Arbor parve ramosa usque ad 7 m alta. Ramuli aliquantum angulati, pubescentes; stipulae ovatae, acutae, scariosae, caducae. Phyllodia recta vel leviter falcata, juventute pilis longis albis tecta, tum subglabra, 10–12 cm longa, 5–8 mm lata, 12–25-plo longiora quam lata, glandibus duabus, uno basi altero prope basem mucronis apicalis; pulvinus pubescens glabrescens ca 2 mm longus; 1 vel 2 nervi longitudinales conspicui, nervi secundarii paralleli conferti, nec anastomantes nec basi simul inter se vel in marginem concurrentes. Spicae parce densae usque ad 6 cm longae, subsessiles, geminae in axillis superis, rhachidi dense pubescenti et bracteolae concavae acutae 0.5 mm longae instructae. Flores 5-meri; calyx 0.7 mm longus lobis obtusis pilosis 0.2 mm longis et sinibus latis gerens; corollae glabrae lobi obtusi 1.6 mm longi, costa conspicua, ad ultra medium usque juncti; stamina ca 2 mm longa; ovarium pilis 0.2 mm longis obtectum. Legumen glabrum 5–7 cm longum, ca 1 cm latum, valvis tenuibus; semina transverse disposita, 5 mm longa, 2 mm lata, funiculo in arillum cupulatum quater plicato.

A small branched tree up to 7 m tall. Branchlets rather angled, pubescent; stipules ovate, acute, scarious, deciduous. Phyllodes straight or slightly falcate, with a covering of long white hairs when young, afterwards subglabrous, 10–12 cm long, 5–8 mm broad, 12–25 times as long as broad, gland basal; pulvinus pubescent glabrescent ca 2 mm long; 1 or 2 conspicuous longitudinal nerves, crowded parallel secondary nerves, neither anastomosing nor running into each other or into the margin at the base. Spikes moderately dense, up to 6 cm long, subsessile, in pairs in the upper axils, with densely pubescent rhachises and concave acute bracteoles ca 0.5 mm long. Flowers 5-merous; calyx 0.7 mm long with pilose obtuse lobes 0.2 mm long and broad sinuses; lobes of the glabrous corolla obtuse 1.6 mm long with a conspicuous rib united to the middle; stamens ca 2 mm long; ovary with a covering of hairs 0.2 mm long. Pod glabrous, 5–7 cm long, ca 1 cm broad, the valves thin; seeds transversely arranged, 5 mm long, 2 mm broad, with the funicle folded 4 times into a basal aril.

QUEENSLAND: Cook District: "Starke" ca 45 miles NNW of Cooktown, Nov 1965, *Pedley* 1909; 15°14' S 145°07' E, 4 miles N of Hopevale Mission, Sep 1970, *Gittins* 2181. North Kennedy District: near mouth of Tully River, Nov 1965, *Webb & Tracey* 8152; [18°00' S 145°56' E] Euramo, in 1971, *MacDonald*. Wide Bay District: Bundaberg, Jun 1964, *Langbecker* (cultivated).

In Cape York Peninsula *A. pubirhachis* grows on seasonally water logged sand in eucalypt woodland, or as an emergent tree in heath. The plant grown at Bundaberg was more or less accidentally cultivated, and the source of the seed is not known.

Acacia sericiflora species nova *A. latifoliae* Benth. forsan affinis. Typus: *Byrnes* NB 781 (Holotypus: BRI 096909).

Frutex gracilis usque ad 3 m altus; ramuli angulati aliquantum grossi, pilis albis sericeis appressis oblecti; stipulae late oblongae 1.5 mm longae sericeae caducae. Phyllodia $\pm$ stricta, 12–14 cm longa, 8–20 mm lata, 7–14 plo longiora quam lata, basi attenuata maxime angusta proxime supra pulvinum; pilis $\pm$ appressis (densis ad phyllodia juvenes) oblecta; nervis duobus prominentibus longitudinalibus et inter eis reticulo laxo instructa; glans una prominens prope basim in parte angusta phyllodii portata et altera ad marginem dorsalem usque ad 1.5 cm ab apice interdum portata. Spicae $\pm$ sparsiflorae ca 2.5 cm longae rhachidi glabra in axillis superis geminatae. Flores 5-meri; calyx membranaceus modice sericeus ca 0.9 mm longus lobis obtusis 0.25 mm longis; corolla ca 2 mm longa sericea; stamina ca 3.5 mm longa; ovarium dense sericeum. Legumen lineare gyrosum ca 3 mm latum. Semina longitudinaliter disposita ca 4 mm longa 2 mm lata; areola aperta magna; funiculus plicatus et apicem versus incrassatus.

Slender shrub up to 3 m tall; branchlets angular somewhat coarse, covered with white appressed silky hairs; stipules broadly oblong 1.5 mm long, silky, deciduous. Phyllodes $\pm$ straight, 12–14 cm long, 8–20 mm wide, 7–14 times as long as broad, attenuate at the base narrowest immediately above the pulvinus, covered with $\pm$ appressed hairs (dense on young phyllodes); two prominent longitudinal nerves with a loose reticulum between them; one prominent gland near the base on the narrow part of the phyllode and another smaller gland sometimes on the dorsal margin up to 1.5 cm from the apex. Spikes $\pm$ sparsiflorous ca 2.5 cm long with glabrous rhachis in pairs in the upper axils. Flowers 5-merous; calyx membranous moderately sericeous ca 0.9 mm long with obtuse lobes 0.25 mm long; corolla 2 mm long, sericeous; stamens ca 3.5 mm long; ovary densely sericeous. Pod linear twisted, ca 3 mm wide. Seeds longitudinal ca 4 mm long, 2 mm wide; areole large, open; funicle folded and thickened towards the apex. Fig. 2A, 9.

NORTHERN TERRITORY: 24 miles W of Liverpool River Crossing, Jun 1972, *Must* 1067; Oenpelli, Oct 1951, *Blyth*; Pine Creek–Oenpelli road, 4 miles east of Mary River, May 1968, *Byrnes* 781; Edith River near upper falls, Sep 1965, *Siebel & Palzer* in For. Timber Bur. Darwin 21.

The species is restricted to the western side of Arnhem Land where it occurs on seasonally water logged sandy alluvium. It is not closely allied to any other species except possibly *A. latifolia*. Its nervature is very like that of *A. latescens*.

Acacia tumida F. Muell. ex Benth. Fl. Aust. 2 : 409 (1864); F. Muell. J. Linn. Soc. 3:144 (1859) *pro syn.* Lectotype: Point Pearce, *Mueller* 100 (K).

The original description of *A. tumida* was based on two specimens, a fruiting one (*Mueller* 100) and one in flower (Sturt Creek, *Mueller* 99). The two specimens represent different species. The flowering one should be referred to *A. difficilis* Maiden and therefore to preserve current usage the fruiting specimen is chosen as lectotype.

A. tumida has glabrous and glaucous branchlets, rather thick falcate glabrous phyllodes 2–5 cm broad on stout glaucous and glabrous pulvinuses. Its bracteoles are stout, its calyx is about 1 mm long with thick concave and incurved lobes, a glabrous corolla, and pods similar to those of *A. brevifolia*. The branchlets of *A. difficilis* are sometimes pubescent and usually have at least a few hairs in the axils. Its phyllodes are rather membranous, less falcate, pubescent or pubescent only at base or glabrous. The bracteoles are on slender stipes; the calyx is 0.6–0.8 mm long with hardly thickened lobes; the corolla is usually pubescent; and the pods are linear and terete, similar to those of *A. julifera*.

BIBLIOGRAPHY

- BENTHAM, G. (1875). Revision of the suborder *Mimosae*. *Trans. Linn. Soc.* 30:335–664.
- BRENAN, J. P. M. (1959). Flora East Tropical Africa.
- EBERSOHN, J. P. & P. LUCAS (1965). Trees and Soil nutrients in south-western Queensland. *Qd J. Ag. Anim. Sci.* 22:431–435.
- GALLOWAY, R. W., R. H. GUNN, L. PEDLEY *et al.* (1974). Lands of the Maranoa–Balonne Area, Queensland. C.S.I.R.O. Land Res. Ser. (in press).
- MASLIN, B. R. (1972). Studies in the genus *Acacia*—1. *Nuytsia* 1:254–260.
- PEDLEY, L. (1973). Taxonomy of the *Acacia aneura* complex. *Trop. Grassl.* 7:3–8.
- PEDLEY, L. & R. A. ISBELL (1971). Plant Communities of Cape York Peninsula. *Proc. Roy. Soc. Qd* 82: 51–74.
- ROSS, J. H. (1971). The *Acacia* species of Natal. (44 pages). Durban.
- VASSAL, J. (1963). Interet taxonomique de la morphologie des graines dans le genre *Acacia*. *Bull. Soc. Hist. Nat. Toulouse.* 98: 341–371.

NOTES ON ACACIA, CHIEFLY FROM QUEENSLAND, IV.

FIGURES

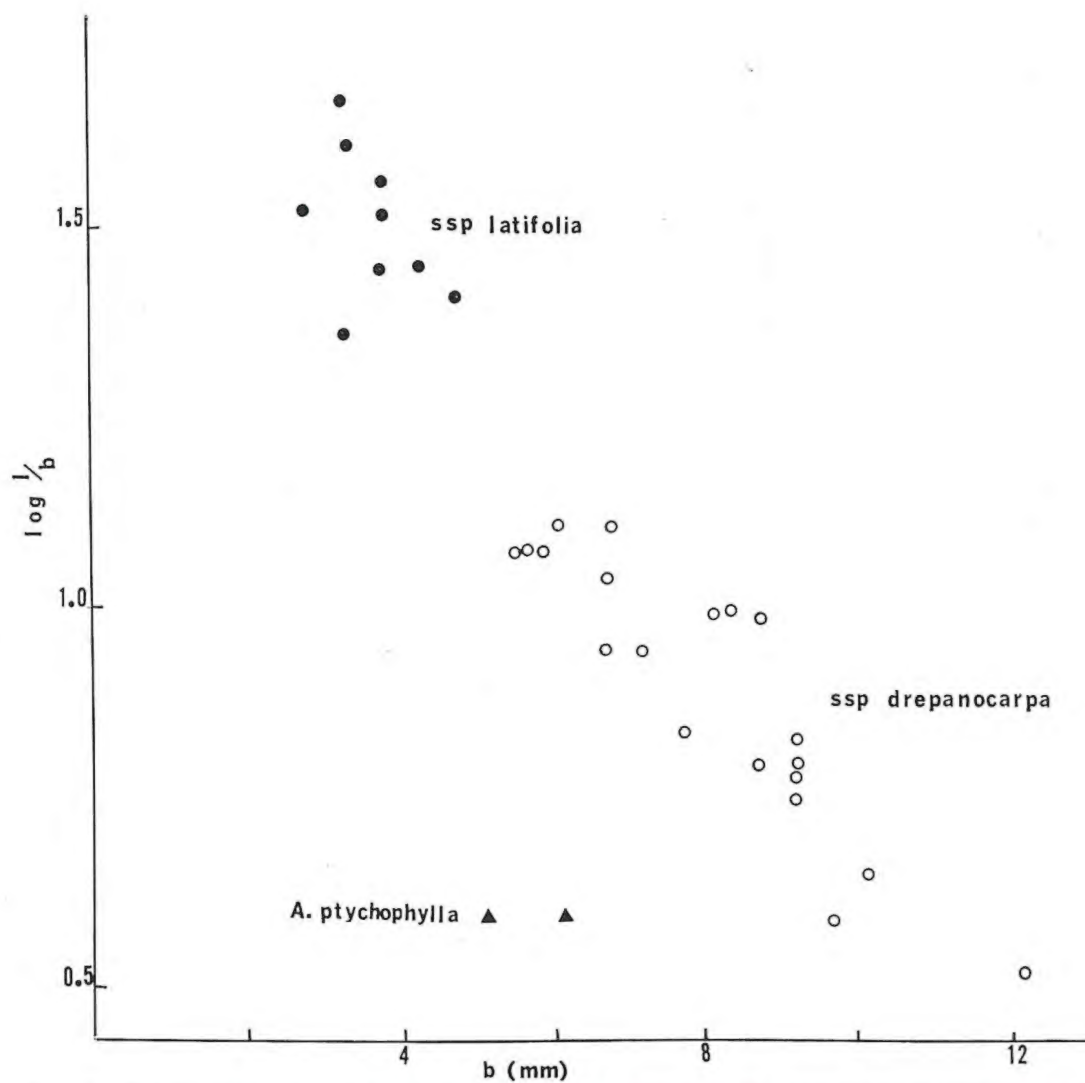


FIG. 1. Relationship between length and breadth of phyllodes of *Acacia drepanocarpa* subsp. *drepanocarpa* and subsp. *latifolia*. Dimensions of phyllodes from type of *A. ptychophylla* included.

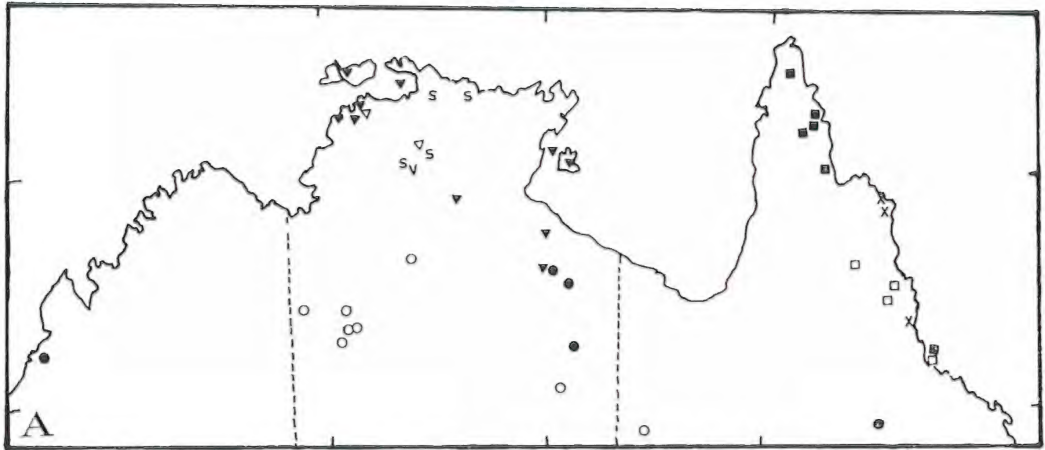


FIGURE 2A



FIGURE 2B

FIG. 2. A. Distribution of *Acacia latescens* (▲), *A. propinqua* (△), *A. brassii* (■), *A. drepanocarpa* subsp. *drepanocarpa* (●), *A. drepanocarpa* subsp. *latifolia* (○), *A. helicophylla* (v), *A. nesophila* (□), *A. pubirhachis* (x) and *A. sericoflora* (s).

B. *Acacia microsperma* (□), *A. aprepta* (○), *A. clivicola* (●), *A. petraea* (△).

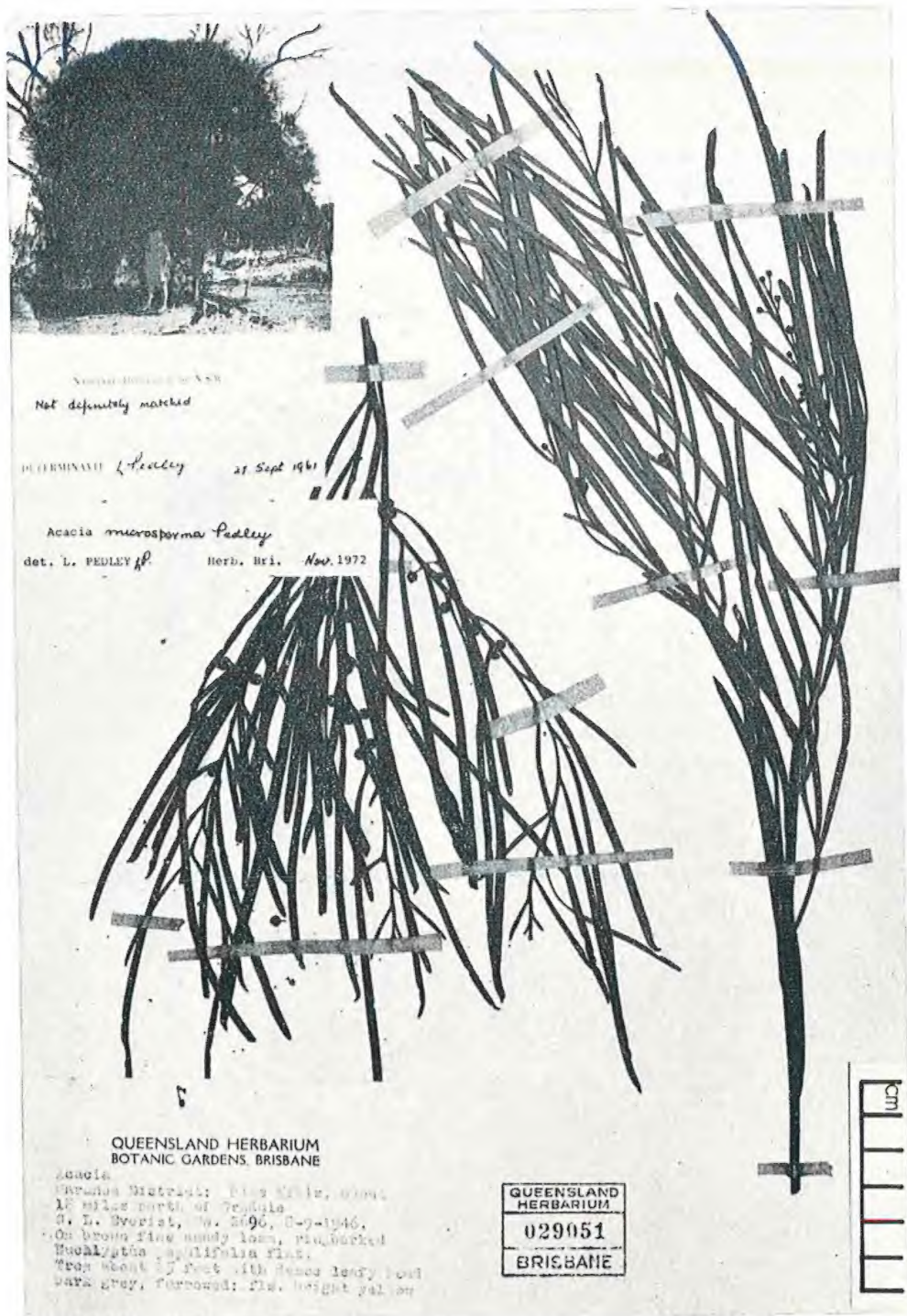
FIG. 3. Type of *Acacia microsperma*.

FIG. 4. Type of *Acacia propinqua*.

FIG. 5. Type of *Acacia clivicola*.

HERBARIUM OF NORTHERN TERRITORY

ALICE SPRINGS, AUSTRALIA

No. 7307

Acacia drepanocarpa F. Muell.
ssp. *latifolia* Tindley

Det. L. HULLY 19

Det. H. H. H.

Nov. 1960

*Acacia pygmaeophylla* F. Muell.

Loc. 36m. W. Soudan, N.T.

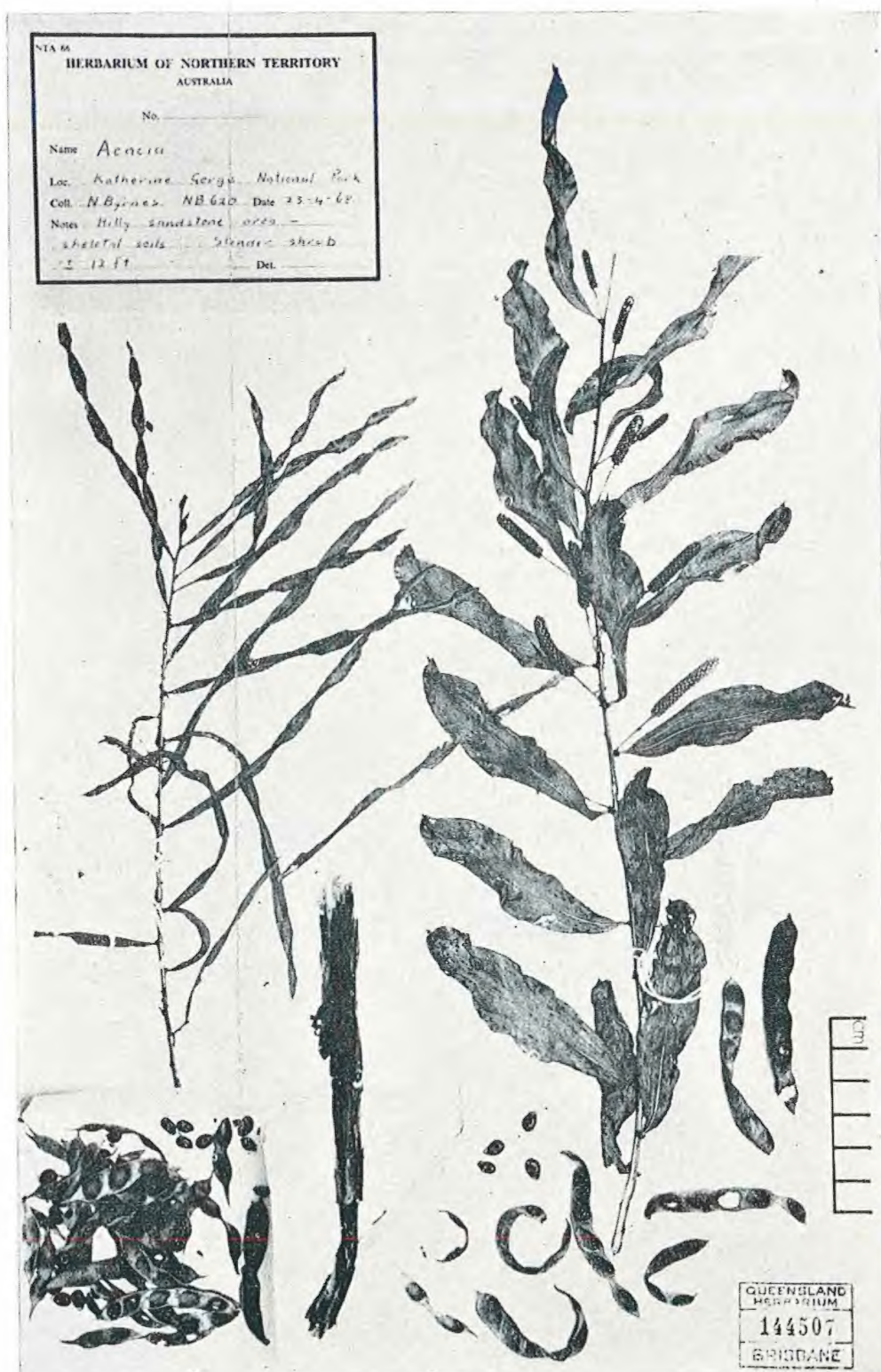
Coll. G. Chippendale Date 21/6/1960

Notes Shrub 4', inflorescence pale yellow. Common, in red sand low scrub.

Det. J. J. Macdonald
11/12/1968

QUEENSLAND HERBARIUM
127066
BRISBANE

FIG. 6. Type of *Acacia drepanocarpa* subsp. *latifolia*.

FIG. 7. Type of *Acacia helicophylla*.

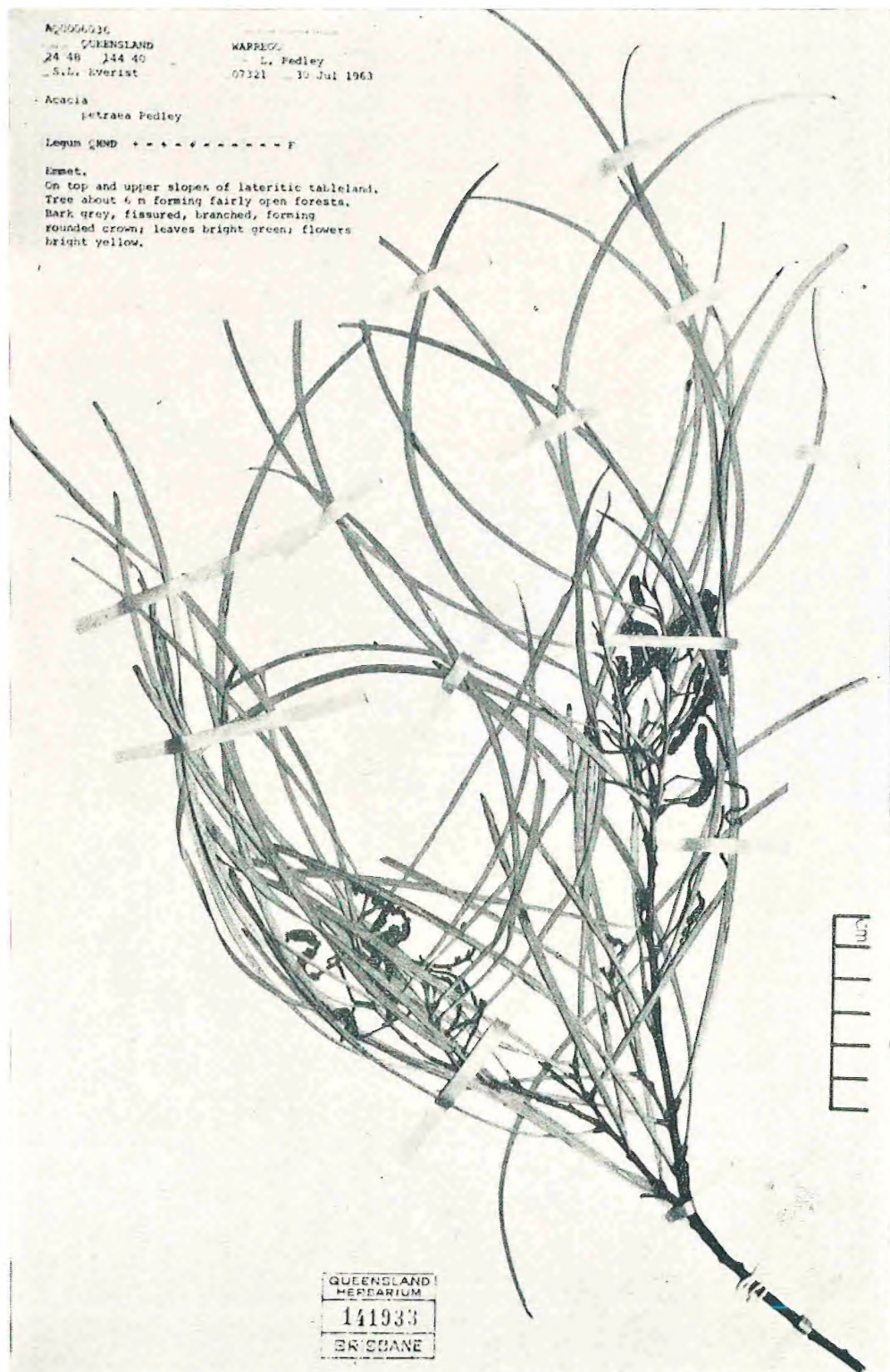
FIG. 8. Type of *Acacia petraea*.

FIG. 9. Type of *Acacia pubirhachis*.